

ECHO IRELAND

Journal of the
Irish Radio Transmitters Society
January/February 2003



Echo Ireland is normally published bi-monthly for members by the Irish Radio Transmitters Society, P.O. Box 462, Dublin 9.
www.irts.ie

It is printed by Westside Press, Units 5/6, Greenhills Business Centre, Tallaght, Dublin 24.

Material for inclusion in Echo Ireland should be sent to

Dave Moore, EI4BZ
Dooneen, Carrigtwohill, Co. Cork
ei4bz@eircom.net
021-4883555/087-6290574

The views expressed in Echo Ireland do not necessarily represent the views of the Society or the Editor

**Deadline for next edition
March 5th**

Calendar 2003

**Coolmine Rally
February 16th**

**Limerick Rally
March 9th**

**EI Activity Weekend
March 15-17th**

**Enniskillen Rally
April 6th**

**2 Metre Counties Contest
Monday April 21st**

**IRTS AGM
April 27th
Green Isle Hotel,
Naas Road, Dublin 22**



Field Day June 1967 near Rathfarnham, Dublin

Con EI7ID/VK6PM, then EI9S pictured holding the sign. John Maher EI4AG is on the right with Vic Steward EI7E wearing the hat. Tom Burns is behind them. Do you know the others?

The picture is remarkable in that it shows two IRTS life members together, EI9S (now EI7ID) and EI4AG.

Picture courtesy of Con Murphy EI7ID/VK6PM

Contents

IRTS Annual General Meeting & EI Activity Day 2002-----	2
Commission for Telecommunications Regulation-----	2
IARU Region 1 Conference—Report from EI4GK-----	4
An occasional look at life with Ger EI8HT-----	5
On the Air with Anthony EI2HY-----	6
Reading the Mail with EI2CL-----	8
IP Numbers with EI4HG-----	8
Club Round Up - Lough Erne, SDR and Cork-----	9
Squares Table 2002-----	9
Wireless Networking with Daniel EI9FHB-----	11
Letters Page-----	11
Data Modes Update from Richard EI2ID-----	12
International Pharmacists Group-----	13
The Irish packet Scene reviewed by Dave EI3IO-----	14
VHF News from Joe EI3IX-----	18
Contest Corner including contest calendar with EI4BZ.-----	19
Meteor Scatter on VHF by Charles Coughlan EI5FK-----	20
Coolmine and Enniskillen Rallies-----	22
Linear Amp UK and Cellcom Ireland plus Members Adverts.-----	23
Limerick Rally-----	24

Society Officers 2002/2003

President:	Dave Moore, EI4BZ	021-4883555	<i>ei4bz@eircom.net</i>
Vice President:	Sean Nolan, EI7CD	01-2851599	<i>ei7cd@gofree.indigo.ie</i>
Auditors:	Ger Gervin EI8CC		
	Tom McLoughlin EI400		
Secretary:	Sean Donelan, EI4GK	01-2821420	<i>seandonelan@indigo.ie</i>
Treasurer:	Brendan De hOra, EI3GV	01-2886144	<i>ei3gv@eircom.net</i>
AREN Co-Ordinator:	Stephen Wright, EI5DD		<i>wrights@eircom.net</i>
Awards Committee:	Peter Grant EI4HX (Chair)	042-9332641	<i>ei4hxpperimental@eircom.net</i>
	Sean Nolan, EI7CD	01-2851599	<i>ei7cd@gofree.indigo.ie</i>
	John McCarthy, EI8JA		
Awards Historian:	Sean Nolan, EI7CD	01-2851599	<i>ei7cd@gofree.indigo.ie</i>
Book Sales:	Peter Grant EI4HX	042-9332641	
Contest Manager:	Noel Walsh EI2JC		<i>nwalsh@eircom.ie</i>
EMC:	Paul Kirkby EI6FE	061-360122	<i>ei6fe@eircom.net</i>
Euro Com	Sean Donelan EI4GK	01-2821420	<i>seandonelan@indigo.ie</i>
Gaeilge:	Pádraig Ó Meachair	0404-67658	<i>ei7gk@esatclear.ie</i>
HF/WEIC Manager:	Sean Nolan, EI7CD	01-2851599	<i>ei7cd@gofree.indigo.</i>
IARABD	Joe Dillon EI4FV	01-8390812	<i>sodioluin@eircom.net</i>
IARU	Dave Moore EI4BZ	021-4883555	<i>ei4bz@eircom.net</i>
IARUMS	Thos Caffrey EI2JD	087-2953256	<i>thoscaffrey@hotmail.com</i>
Membership Officer:	Joe Ryan EI7GY	01-2854250	<i>jryan@iol.ie</i>
Morse Testing Co-Ord.:	Sean Donelan EI4GK	01-2821420	<i>seandonelan@indigo.ie</i>
Chief Morse Tester:	Dan Lloyd EI3AE		
P.O. Box 462	Michael McNamara		<i>ei2cl@eircom.net</i>
Publications Editor:	Dave Moore EI4BZ	021-4883555	<i>ei4bz@eircom.net</i>
QSL Inwards Manager:	Pat Fitzpatrick EI2HX.	041-9841817	<i>patfitzpatrick@hotmail.com</i>
QSL Outwards Manager:	Hugh O'Donnell EI2HI		
Incoming QSL Sub Managers:			
0,1, Series Calls & SWL:	Dermot Adams EI7IX.		<i>ei7ix@eircom.net</i>
2 Series Calls:	Thos Caffrey EI2JD	087-2953256	<i>thoscaffrey@hotmail.com</i>
3 Series Calls:	Pat Fitzpatrick EI2HX.	041-9841817	<i>patfitzpatrick@hotmail.com</i>
4 Series Calls:	Jim Ryan EI3DP	021-4632365	
5 Series Calls:	Paul O'Kane EI5DI		<i>paul@ei5di.com</i>
6 Series Calls:	Rory Hinchey EI4DJB		
7 Series Calls:	Dermot Adams EI7IX		<i>ei7ix@eircom.net</i>
8 Series Calls:	Gerald Kenneally EI8HT		<i>ei8ht@eircom.net</i>
9 Series Calls:	Declan Lennon EI9HQ		<i>ei9hq@clubi.ie</i>
Radio News Editor:	Mark Wall EI7IS	087-6302026	<i>ei7is@qsl.net</i>
VHF Manager:	Joe Fadden EI3IX	087-2381054	<i>joe_fadden@yahoo.com</i>
WAI Awards Manager:	Tom Rea EI3GP	093-35523	<i>tomrea@eircom.net</i>
WAI Book Sales:	Noel Mulvihill EI6HW	0902-74726	<i>nfmulvihill@eircom.net</i>
Webmaster:	Leslie Long EI4DU		<i>leslielong@eircom.net</i>



**The new IARU Region 1 President
Ole Garpestad LA2RR**

EI Activity Day 2003

As St. Patrick's Day falls on a Monday this year, it gives us the opportunity of extending our usual Activity Day to a full weekend.

Please make an effort to get on the air over the weekend. Activity from the rarer counties would be very much appreciated and clubs in particular might make an effort to operate portable for the occasion.

If you plan to operate from a rare county, please let us know.

Worked All Ireland Award Scheme

Thousand Award Number No. 007



Gerry Morgan EI2CH

Irish Radio Transmitters Society

Annual General Meeting

**Sunday April 27th
at 1430**

**Jury's Green Isle Hotel
Naas Road, Dublin 22**

Trophies and Awards

Nominations for all trophies must be with the Awards Committee on or before April 5th

Construction Trophies

Entries for the Construction Trophies must present their equipment to the Awards Committee before 12 noon on the day.

SWL Trophy

Entries for the Ian Morris Trophy must also be submitted before April 5th.

Enquiries to Sean Donelan EI4GK

There will be no dinner dance or rally associated with this year's Annual General Meeting.



Commission for Telecommunication Regulation (ComReg)

The Commission for Telecommunication Regulation (ComReg) formerly known as the Office of The Director of Telecommunication Regulation was established on December 1st 2002 and is headed up by Chairperson Etain Doyle, Commissioner John Doherty and Commissioner Isolde Goggin.

ComReg is the statutory body charged with the licensing and regulation of the electronic communications industry in Ireland and also has responsibility for regulating the postal sector.

The existing postal address, phone numbers and fax numbers remain the same. Please note that the email and web site addresses have changed.

Commission for Telecommunication Regulation,
Abbey Court, Irish Life Centre,
Lower Abbey St.,
Dublin 1.

Telephone: 01-8049600
Fax: 01-8049680 or 01-8049665
Email: firstname.surname@comreg.com
Web Site: www.comreg.ie

IARU Region 1 Conference San Marino 2002

San Marino is the oldest Republic in the world, having been in existence for over 800 years. It has an area of 61 square kms and is located 10 kms from the Adriatic Sea in the centre of Italy. It is home to 60,000 inhabitants, many of whom live on top of a 750 metre mountain but it welcomes 3,000,000 visitors every year. It has no airport or railway station and it is completely surrounded by Italy. Its Amateur Radio operators use the prefix T7 and it has an Amateur Radio Society with 25 members.

This was the unlikely venue in November 2002 for the IARU Region 1 Conference that Sean Nolan EI7CD, and I, were delegated to attend on behalf of IRTS. Region 1 covers Europe, Africa and the Middle East. Over 40 of the 87 Societies in the Region sent delegates, but the fact that less than half the qualified Societies were represented did create some problems during the Conference. It was disappointing to hear that some of the African Societies were not represented because the Italian authorities had refused to grant visas to their delegates. A number of the Arab delegations did not attend because the Conference took place during Ramadan.

In all, more than 130 delegates and observers were accommodated in the Casa San Giuseppe which was also the venue for the Conference. Although English was the first language of a relatively small minority of those present, all business was conducted in the English language. This was less a tribute to English than an admission that it has become the second language of a large portion of the world's population and hence a very convenient common denominator for communication.

One subject more than any other dominated the proceedings of the Conference. The ITU World Radio Conference scheduled for June 2003 will consider two items of prime importance to Radio Amateurs. These are the Mandatory Morse Test for access to the HF bands and the future of the 7MHz Amateur Band. Although the IARU policies and strategies on these subjects have long since been debated and agreed, the outcome of the discussions in the WRC are



far from certain. Larry Price W4RA, President of IARU, outlined the present situation under each heading and urged delegates to continue to lobby their local administrations to support the IARU positions. He was confident that the WRC would vote in favour of the abolition of Mandatory Morse Tests but the outcome of the vote on 7MHz is less clear. IARU seeks a 300KHz exclusive allocation in the region of 7MHz. Although American countries already have this allocation, and European countries in general support it, this is not the case with the Asian and African administrations. Should IARU not succeed in their efforts to expand the 7MHz band at WRC 2003, it will be many years before such an opportunity arises again. Hence it is very important that we do everything possible to influence the outcome of the vote.

The other major factor influencing the IARU Region 1 Conference was the number of new faces appearing among the senior officers. Lou van de Nadort PA0LOU has been an effective and hugely popular President of Region 1 for 28 years while Wojciech Nietyksza SP5FM had served on the Executive Committee for almost as long and for many years was responsible for relations with ITU and other international regulatory bodies as Chairman of the External Relations Committee. Both felt that the time was ripe for change and stepped down. Many tributes were paid to them for the quality of their leadership over the years. The newly elected President

of Region 1 is Ole Garpestaad LA2RR, a member of the Executive Committee since the Lillehammer Conference in 1999, while Hans Blondeel Timmerman, PA7FT is the new Chairman of the External Relations Committee. To complete the line-up of new faces, Don Beattie G3BJ took over the Secretary's position from Tim Hughes G3GVV and Andreas Thiemann HB9JOE became Treasurer instead of Elisee Bismuh F6DRV.

While the Agenda for the Conference covered the full gamut of Modes, Frequencies, Administration, Funding, High Speed Telegraphy, Amateur Radio Direction Finding and much more, there were a number of areas that deserve mention. The traditional Bandplans were revised to take account of the new digital modes that have been appearing in recent years. The new plan refers to transmissions by bandwidth rather than mode. For example, the lower end of each HF band is allocated to transmissions of 200Hz bandwidth or less, the next section accommodates individual transmissions up to 500Hz in width, while the upper end of the band contains those wider bandwidth transmissions up to 2.7KHz. On VHF the bandwidths of 500Hz, 2.7KHz, 12KHz and 20KHz will be used in the 50 and 144MHz bands. Also on VHF a new mode to be known as MGM (Machine Generated Modulation) will be used for those systems where computer processing is an essential component of transmitting and receiving e.g. PSK31 and FSK441. As

new modes are developed each will fit into that segment of the band determined by its bandwidth. The beauty of this development is that although the terminology changes, the existing band plans effectively remain in place.

An operating Code of Practice for 50MHz operators, based on the UKSMG guidelines was adopted by the Conference and will be included in the VHF Managers Handbook.

With the reduction in the mandatory Morse testing speed in recent years, it was acknowledged that there was a need to encourage newcomers to the HF bands to work on their CW skills. Accordingly, it was agreed that certain frequencies would be recommended as QRS "Centres of Activity" where radio amateurs who want to develop their CW skills could meet one another. These frequencies are 3.555MHz, 14.055MHz, 21.055MHz and 28.055. In the same spirit, the frequencies 3.560MHz, 7.030MHz, 14.060MHz, 18.096MHz, 21.060MHz, 24.906MHz and 28.060MHz are recommended as "Centres of Activity" for QRP operation.

Although most individual Societies operate their own Emergency Communications Units, these have never been coordinated on a Region 1 basis. The San Marino Conference addressed this omission by appointing Gordon Adams G3LEQ as its first Emergency Communications Coordinator.

The Conference also had its social side! The Republic's Secretary of State for Cultural Affairs hosted a most enjoyable Concert and Supper that boosted flagging spirits early in the week. The "rest" day comprised a visit to Venice, that was definitely not restful, but was most interesting and entertaining.

Finally the Conference ended with the Gala Dinner in the beautiful San Marino Conference Hall.

On this occasion the IRTS delegates found themselves sitting at the same table as Larry Price W4RA and David Wardlaw VK3ADW, President and Vice President respectively of IARU. During the evening David proudly showed us his Irish Passport and informed us that his father was born in Dublin. It's a small world!

EI4GK



I Will Never Make It As A Fisherman

By Ger Kenneally EI8HT

And what has fishing got to do with amateur radio?

Nothing, it's just that over the last number of years I've been writing for the Newsletter/Echo Ireland and some of the articles I would think were pretty contentious?

In other words I've been baiting the hook and casting my rod (pen) and not even a nibble in return. So what do I have to say to get a response.

Anyway what about amateur radio?

Well, I sit here in the shack on this nice but cold early January evening looking back on the past year and feeling quiet pleased about some of the experiments, especially the one's that worked. I've forgotten about the one's that didn't. Looking forward to the coming year and planning. Well they say to plan early!

I've promised myself that I'm going to buy one of them smart tuners. I did leave enough hints for Santa but I think he forgot that I'm an active experimenter and left me nothing for the shack in my Christmas stocking.

And for someone who says he doesn't like to use tuners what are you doing buying one? Well, as we all know, band conditions will start to drop from here on and we will have to start thinking about the lower bands. And what do we need for the lower bands? Lots of space for long antennas and if we don't have the space what do we have to do?

Well we fool the antenna into thinking it's longer with the aid of a tuner.

In my case the local golf club has put up a safety fence about 50 yards from my house. So with 5 timber 40 foot high poles within a short distance from my shack I think it would be classed as a mortal sin if one were not to make use of them. Hi!

Don't we sound posh, "if one were", would ya listen to him and he only has a Primary Cert. That maybe but I consider myself a graduate of the university of life.

To explain, I was helping someone set-up in a new office lately, running cables from printers, scanners and the like when I noticed that this particular person was trying to force feed a two pin plug from the fax machine into a three pin socket.

This guy is so highly educated that he would have no problems measuring the

cubic capacity of a jam jar but might find it difficult to open the lid.

And that's not much good, if like me, you like a little jam on your bread. So I said to him why don't you change that plug? And you know I couldn't believe my ears he told me he doesn't know how.

What are we teaching them in school these days?

I think the girls are better prepared for life with Social Science as a subject; they will at least be able to boil a spud, whereas the boys well guess theirs always Mammy or the chippy.

The point I'm trying to make is, are we as experimenters going the same way? With the changes in regulations i.e. 5 wpm and the dropping of the 12-month probation period, are we like in the UK going to introduce an M3 type licence? Recently I spent some time listening to M3*** calling CQ DX at 13.30 on 40m for the best part of an hour. Now he did receive the odd smart remark from people with no call signs, then an elderly gentleman G3*** explained how difficult it would be to work DX at that time of day on 40m. So he drops DX from his CQ and soon had a mini pile-up.

That's experience, which in my opinion can only be gained from listening on the bands. I, like a lot of others, remember what it was like the first time we used the PTT on the mike. It's just about at that time as you open your mouth that the cable connecting your brain to the voice box disconnects, utter rubbish and back to front call signs roll off the end of your tongue but we still knew that we could not work DX on 40m during the middle of the day.

On another small but very important point, how can the new foundation licence be classed as an amateur licence when you are not allowed to use home brew equipment?

My thoughts are that it does away with the essence of experimenting. Are we heading towards the time when the humble soldering iron will be classed as an endangered species?

Anyway enough rubbish from me and let me take this opportunity to hope you've all had a happy Christmas and to wish you all a happy, healthy and prosperous new year.

De Ger EI8HT.



On The Air

With Anthony O'Rourke EI2HY

Anthony O'Rourke EI2HY,
13 Hazel Road, Togher, Cork
ei2hy@iol.ie

Welcome to the first "On The Air" column for 2003. I hope you all had a good Christmas and got a few new rigs in the stockings hi!

The bands were in good enough shape over the month of December with excellent conditions still prevailing on 10m, a few openings on 6m both Sporadic E and F2 to Africa and South America. The Sun continues to be active even though we should be starting to head downwards toward the minimum by now. Sunspot numbers on December 26th were 62 and had reached a low of 51 on December 29th, the lowest value for over a year and half, but paradoxically Geomagnetic Activity was high enough with an A index of 26 on December 23rd.

A look at the average sunspot numbers for 2002 show them at 178.3 and if you contrast them for the last three years where they were 136.3 for 1999, 173 for 2000 and 170.3 for 2001 you wonder when will the minimum occur!

Band Reports

DXer's received the worst possible news on Friday the 22nd of November when Ed, 4L4FN, was "politely" asked by the Radio Regulation Board in North Korea to cease transmitting and pack all his equipment up. With North Korea once more in the news for the wrong reasons I think it'll be a long time again before P5 will be heard on the air legitimately.

Luckily other once rare entities in Asia are still on air and during the ARRL 10m contest a good signal was heard from Champ, E21EIC, who operated from Laos as XW1IC.

Neighbouring Cambodia had activity from Jaak, XU7ACE, with cards going to ES1FB and "Slim" was active on 10m as XV5J who I worked but did think the operator was very poor in handling the pile-up hi!

A good chance to pick up Thailand on the WARC bands where it's not normally allowed occurred during the 20th World Scout Jamboree held in Sattahip between December 29th to January 6th when E20AJ graced the airwaves.

Well known DXer and activator of many new ones Martii Lane OH2BH, led a Finnish team consisting of OH2PM, OH5BM and OH8SR to Albania (ZA) where they "celebrated" the first activation of the then most rarest DXCC

eleven years ago by an IARU funded DXpedition, the call ZA1B was heard on all bands and modes to celebrate the Anniversary.

A bit of careful listening and early morning sessions would have netted you Walt AH6OZ, Jim WH6GS and Pat NH6UY, who made brief appearances on air from Palmyra (KH5) during a yearly maintenance trip to look after the facilities there on the once privately owned Atoll.

"King Henry" three was also on air with Gary, KH6GMP, struggling to be heard from Johnston Island (KH3) when a storm took down his main antenna and left him to barely make less than 3,000 QSO's from there.

No such problems for Jose, TI2JJP, though who enjoyed a bit of snorkelling and operating from Coco's Island (NA-012) as TI9JJP from December 10-25 and was a nice catch if you happened to miss the TI9M trip.

A few transportation problems delayed Atsu, 5W1SA, from making the trip to Tokelau (OC-048) during the first part of December but eventually he was able to spend Christmas on Tokelau and is still QRV with the call ZK3SA at this time. As ZK3 would be a new one for me I've chased Atsu up and down the bands since Christmas Day but Murphy's Law, he seems to appear on 10m working back home to Japan at oddball times hi!

Maybe the Kermadec gang might set their sights on it again as they had to cancel a planned trip there a few years ago and came on as ZL7AA instead. This leads on to a nice related topic about Steve, G4EDG, one of the ZL7C operators who plans to do a CW only trip to Stewart Island (OC-203) between Jan 17-21 as ZL4/G4EDG.

Moving onto the "Dark Continent", Africa saw plenty of activity during the latter end of 2003 with Andy, G3AB, bringing Liberia down on the "Most Wanted" lists by giving out 40,362 QSO's including 959 on 6m as 9L1AB. Cards are now been answered by Andy who's safely back home.

A large group of JA UN volunteers once more came on from Mauritania but instead of using the previously used group call of 5T5U, chose to use individual call signs: 5T5CPS (JA1PBV), 5T5RUZ (JA8RUZ), 5T5RQ (JA6RQ) and

5T5CPS (JA1CPS) with a small group making a side trip during December 2-15 to Western Sahara as S07U.

Vitaly VE6JO, finally got his visa problems sorted out and was very much QRV from Bioko Island (AF-010) in Equatorial Guinea as 3C2MV.

One for the prefix hunters was AM9CE, usual call EA9CE, who was using this call for an URE conference in Ceuta. Keeping a Spanish flavour to things, QSL's if you worked XT2ATI in Burkina Faso go to EA4YK.

Another one for the prefix hunters is D88S who's Lee, DS4CNB, stationed on the Korean Antarctica King Sejong Base on the South Shetlands (AN-010) until November 2003. Also wrapping up well down there is Martin, G3ZAY, a well known member of the IOTA Committee and activator of many new ones. He left England on a three week voyage with stops planned at nearly all the VP8's Entities, the Falklands, South Georgia, South Orkneys, South Shetlands and Antarctica. The call VP8DFK should be used and of course operations are entirely dependent on weather conditions but as of time of writing this nothing has been reported.

With it being the Summer season in Antarctica this is the time when personnel are changed and bases are restocked with supply ships arriving all the time. Sometimes this means a once active base loses its only Radio Amateur but luckily for the Argentine Base on the South Orkneys (AN-008), an operator named Hannibal will be replacing Jose, LU1ZA, and will have company for a few weeks as Henry, LU4DXU, who's a well known DXer and contesteer plans to stay on for a while.

It could be a bit crowded on the South Orkneys as once again Mike, GM0HCQ, plans to operate from Signy Base as maybe VP8SIG when the supply ship "Ernest Shackleton" arrives there around March 27-31. "Wrapping up" (excuse the pun hi!) our tour of Antarctica Bases, Felix, DL5XL, will start a tour of duty in March until November from the German Base Neumayer (AN-016) using the call sign DP1POL.

Not much to report for the Island chasers with just a handful getting activity. Of interest was ZA0IS, which was Sazan Island, the only Island qualifying

(Continued on page 7)

(Continued from page 6)

for Albania's IOTA group of EU-169 and whose mainly Italian led group made 4,804 contacts between December 18-23.

A group of Argentine ops came on from SA-022 using home calls /D, worked were LU4ETN/D and LU7DSY/D. VK4YI showed up from OC-137 while braving the storms, GM0LVI/P spent a few days after Christmas on the (ironically named) Summer Isles (EU-092).

On a sad note, Victor, UT8LL, became a silent key when the plane he was travelling on crashed on December 23rd. Victor was well known in IOTA circles and was mentioned in the last issue for his part in activating for the first time an IOTA from Iran when he organised EP6KI from AS-166.

An interesting station was heard on the bands recently and is causing a few debates on the DX forums. Tom NN2X is stationed on the Island Kingdom of Bahrain (AS-002), so far so good, but first off he's signing NN2X/A9 which is not allowed in Bahrain as legitimate stations use A92 calls. Secondly he uses the internet to remotely operate a base station located in Boston, USA which means that he shouldn't be using /A9 at all as the transmitted signal originates from mainland USA even though the operator is halfway around the globe! Impressive technology but maybe one for the keyboarders?

I mentioned last issue about now having a FT-100 in the shack and at last can report on a few openings on 6m, my first two QSO's on the "magic" band were certainly nice DX!

On the afternoon of Wednesday the 20th of November at 12:20UTC I came across D44TD calling CQ from grid HK86NS and was quite happy to work him because within three minutes he'd dropped below the noise level.

On the same day at 14:27UTC I managed to work C56R in the Gambia on CW. That was it for a while then until the middle of December when there were a few days when the band was open to Europe via Sporadic E and one brief opening to HC-land in South America by presumably F2 propagation. I worked a few Italians and then a nice few openings finished off 2002 for us with a two hour opening on Sunday the 29th of December with mainly ON's, DL's and PA's worked. Among them were ON6DP in JO20SM, DL8PM in JO37RU and PA0HIP in locator square JO21JO with the last contact being

COCO'S ISLAND Ti 9 JJP

CONFIRMING QSO WITH	DATE			UTC	MHZ	RST	MODE 2 WAY
	DAY	MONTH	YEAR				
Fi 2HY	20	7	97	2313	14	5/4	SSB

Ing. José Pastora (Ti 2 JJP)

P.O. Box 330-1000

San José, Costa Rica

Central America

☐ PSE QSL

☐ TNX QSL

WAZ ZONE 7

ITU ZONE 18

OZ1DPR from grid JO45IG. We had an opening on New Year's Eve at around 17:00UTC with Poland, Germany and Czech Republic being heard/worked. I'm afraid the novelty of working Europeans all over again quickly fades as you face a pile up of Italians hi!

Up And Coming

It seems a large number of Europeans are escaping the gloomy winter days by travelling to warmer climes during the first few months of 2003.

First off will be Alan, G3XAQ, who gets to go to Equatorial Guinea between Jan 9-21 as possibly 3C5XA.

Next up will be a call familiar to many EI Dxsers, Bert, PA3GIO who sends cards via the bureau for all his overseas QSO's and they are all quite colourful as well. This time Bert heads across to the opposite side of the globe to operate from New Zealand and one of it's tiny Island dependencies. First stop is Waiheke Island (OC-201) for just a one day trip on Jan 10th as ZL1/PA3GIO/P and then on to the separate DXCC Entity of Niue Island (OC-040) where the call sign ZK2GI will grace the airwaves from Jan 18-26.

More Island activity, this time from Chile South America as the rare Mocha Island (SA-061) is put on air when CE6M comes on Jan 15-18.

To finish up the announced plans for January Hans, DL7CM and Sid DM2AYO, head for Haiti (NA-096) between Jan 30 and Feb 16, while heading south some other German ops head for Ghana in the form of DL1CW and DL3GA who plan to be QRV as 9G5AP and 9G5GA respectively during the time frame of Feb 5-18.

Glenn, W0GJ, heads back to Bhutan in February to be active as A51B from the

3rd to 26th.

Two exciting DX trips have been announced for March but before them we'll have some one man trips to the Pacific to round up February with Marius, IZ8DBJ, saying he's going to Tokelau (OC-048) to "activate a new IOTA". Having checked the latest IOTA Directory I can't see any unactivated Islands near Tokelau!

You'll have to be quick off the mark to catch Ed, W2SN, when he comes on from Pitcairn Island (OC-044) Feb 4 for a brief few hours.

Staying in that area the big news for March is a second trip announced to Ducie Island (VP6/D) starting on March 8th by much the same team that did a great job last year.

Demand will still be high for Ducie but after their "baptism of fire" last year no doubt the now seasoned veterans from Pitcairn itself will handle the howling mob with ease.

The boat "Braveheart" has already been paid for and is a veteran of DXpeditions by now!

We go back to mainland Africa for the other major DX trip announced for March with news of a German led group assaulting the Sudan with the unique call ST0RY (that's Sierra Tango Zero Romeo Yankee!). As its not easy to obtain permission to operate from there no doubt this will be eagerly awaited by many as normally DXers would make do with just the one band or mode contact. The team will be led by experienced operators Falk DK7YY, and Chris DL5NAM and they hope to have three HF stations on at the same time for at least three weeks. They plan an entry in the CQ WPX SSB DX Contest.

(Continued on page 8)

(Continued from page 7)

Also planning an entry in the WPX Contest will be CE4FX Y using the call CB4Y.

One call you can take the entire year to work will be ZS90SAP to celebrate 90 years of the South African Police Services.

For the Island chasers, Nick RA1QQ is looking to head to Morzhovets Island (EU-119) during the summer months and as it's the last IOTA number I need in Europe (apart from the unnumbered Rockall off Donegal) I'm all set for it!

Much closer to home Jean-Marc F5SGI will be on from Groix Island (EU-048) during April 13-19, CW only.

Finally, for the hill walkers among you (or even SOTA – Summits On The Air) chasers, 3A2MY will hope to be on air from Aconcagua Peak, 6959m ASL as LU/3A2MY from between Jan 16-23.

That's it for this issue, my thanks for items to Bert, PA3GIO, Dave EI4BZ and The Daily DX, keep listening.

Anthony EI2HY

No success for 144 MHz Trans-Atlantic attempt

A group of German radio amateurs attempted to make a 144 MHz Trans-Atlantic contact on the 19th of November last during the peak of the Leonids meteor shower.

The EI based crew operated from IO41TU using the callsign EI2TAA (Transatlantic Attempt)

Transatlantic tests started at around 0200 UTC but due to heavy storms in the west, the crew used light weight aerials with less gain than the planned M-Squares. However, under the mechanical load of the storm the Yagis gave some unwanted noise, so the test in the 1st Leonid peak failed.

During the transmission from the VO1 crew the HV-Trafo on the linear amplifier failed.

Both crews decided that even using the optimum scale the conditions were not favourable for making the elusive transatlantic 2 metre QSO.

IP Numbers

By
EI4HG

The organisation AMPR.ORG has given me the job to coordinate the issuing of IP Numbers in the Class A network range 44.155.x.x for holders of a valid experimenters/ham licence in EI

Sounds good. What is it?

When it came to issuing the task of issuing and administrating IP Numbers for Companies and Organisations some hams had the foresight to get a range of numbers reserved for us. This was well before packet radio and other high speed modes started to spread in Europe.

With the introduction of wireless fast networking this will now become an important issue.

So far only few numbers have been handed out to a number of experimenters, only very few have been used (to my knowledge).

My job simply consists of handing out the number (s) to any ham that feels he/she has use for it, I then forward the updated list to ampr.org. They then add it to the dns-tables.

With the introduction of 2.4 GHz wireless equipment, it is important to ensure that this is taken up by as many hams as possible.

I shall happily coordinate or cooperate with anyone that is/wants to be involved.

Give me a call on 087-2571305 or email to wrsz@eircom.net

EI4HG

Digital Radio

Two radio communications pioneers recently achieved breakthrough in digital voice communication on amateur radio by carrying out a digital HF QSO across the Atlantic.

Didier Chulot, F5MJN and Doug Smith, KF6DX, successfully transmitted and received HF digital speech signals between France and the USA.

The digital link operated within a 3 kHz bandwidth on 21.218 MHz.

This demonstrated noise-free, FM-like reception and the potential for simultaneous voice and data.

Reading the Mail

By
Michael McNamara, EI2CL

Welcome to compilation #22 of "Reading the Mail" – an account of IRTS QSL Bureau activity from 1 November to 31 December 2002.

During the time small packets of cards (less than 1 kilo) came from BFRR Belarus, CARS Cyprus, EDR Denmark, FRR Romania, HRS Croatia, LABRE Curitiba, OVSV Austria, RCP Panamá, RCP Peru, and 3A-buro (Monaco).

In addition larger lots came from ARRL, Dutch QSL Buro (Belgium and Netherlands), PZK Poland, SRR Russia (1 - 2 kilos each), RAC Canada and USKA, (3.5 kilos each) and DARC (8.9 kilos).

While sorting the cards the following were noticed and thought worthy of mention: EY8AM, V51HK, V5/DJ9KH, W2W, XE1/DJ4ZB, XU7ABR, 3DA0FR, 4T4X, and 5A2A. Also very obvious was the large number of cards reflecting activity on 50MHz with many different countries of Europe. As well as cards from many Russian, USA, Danish, German, Greek and Italian islands, for island chasers the following were noticed: AH6HY/AH8, BV7/DL7IO, EW900B, NH7Y, R1AND, R3HQ, RI0B, RS0B, RU0B, T48K, VK9NS, XF1/DL1YMK, ZK1EFD, 3G0Y, 4S7VK, and 8S5T. Congratulations to all concerned.

With regard to QSLs for Kazakhstan, Russia and Ukraine I would like to remind members concerned, when sending bundles of out-going QSL cards to the IRTS, that it is necessary to always separate cards destined for those countries. Despite any difficulty in identifying the country on the basis of the call sign, it is strongly recommended that it be done and written on the QSL in all cases.

Do not leave it to someone else to do it. Since the break-up of the USSR at the end of 1991, new QSL bureau for most of the "new" republics have been established and, in the circumstances, cards sent to the wrong country will cause unnecessary work and considerable expense for the societies involved.

Best wishes and lots of good DX in 2003.

Michael McNamara, EI2CL.

Club Roundup

Lough Erne ARC

At its AGM in September 2002 the Lough Erne ARC elected the following officers:

Chairman: Herbie Graham, GI6JPO,
Cavenacarragh, Lisbellaw, Co Fermanagh, BT94 5GL Tel
028/048-6638-7761. Email h.graham@bigfoot.com

Treasurer: Adrian Duffy, GI6ZIR,
81 Arney Road, Bellanaleck, Co Fermanagh, BT92 2DL
Tel 028/048 6634-8444, Email akduffy@aol.com

Secretary: Michael Clarke, MI5MTC,
Ardlougher, Irvinestown, Co Fermanagh, BT94 1RN,
Tel. 028/048 6862-1436, Email michael.clarke@swiftsoft.net

The Clubs annual rally will be held at the usual venue in the
Killyhevlin Hotel in Enniskillen on Sunday April 6th

Shannon Basin Radio Club

The Shannon Basin Radio Club meets on the first Wednesday
every month at the Royal Hotel in Roscommon Town at
2030. Visitors and new members welcome.
Details from Brian EI8IU on 086-8735826

Cork Radio Club

The Club would like to welcome back Ingo Stengel DH5ST,
from Langen, Germany, who is studying at the Cork Institute
of Technology. He was here last year for a couple of months
and hopes to be active on the HF bands during his stay this
time.

We have been active on HF during club nights, Anatoly EI4JF
working CW has made many contacts.

We have worked all the countries for the Euro award and are
awaiting confirmation of the award.

Attendances at our weekly meetings has been very high since
Christmas.

Our QSL Manager & Director of the Cork DX Award, Chuck
EI4IS has been computerising our QSLs. This mammoth task
involved typing many thousands of entries into the computer.

The club meets every Monday night at Wilton Park House, in
Bishopstown, near Cork University Hospital.

New members and visitors are always very welcome.

South Dublin Radio Club

Annual General Meeting

The Annual General Meeting of South Dublin Radio Club
takes place at the club QTH at Marian Road, Rathfarnham on
Tuesday 25th February, at 8.00 pm.

This is an important event in the club's calendar, and all mem-
bers are requested to attend.

Spring Challenge

A reminder that the South Dublin Radio Club's "Spring Chal-
lenge" has just started. This Challenge runs for the month of
February, and is designed to encourage HF activity on all
bands and modes during the month. In summary, points are
awarded for each separate DXCC country worked on each
band.

It's not a contest, and in fact contest QSOs do not qualify for
points.

The full rules are on page 18 of the IRTS Year Book 2003,
and are also on the club's website at www.qsl.net/ei2sdr/

Christmas Party

SDR's Christmas Party, which took place on 17th December in
the Templeogue Inn, was very well attended, with most cur-
rent members and a few old friends present.

Among the attendance was a group from the Glengormely
Electronics Amateur Radio Society based on County Antrim,
which is twinned with SDR.

Autumn Challenge

The party activities included the announcement of the winner
of the Autumn Challenge, which is an activity competition for
club members run during the month of November.

This year the Challenge winner was Thos Caffrey EI2JD.

Pictures taken at the Christmas Party are now on the club's
website at <http://www.qsl.net/ei2sdr/>

Squares Table 2002

Callsign	6m	4m	2m	70cm	23cm	Total
EI5FK	294	1	121	30	0	446
EI3IO	307	24	1	1	0	333
EI2FSB	243	0	59	7	1	310
EI6IZ	293	1	1	1	0	296
EI7BMB	285	0	0	0	0	285
EI2JD	252	0	17	3	0	272
EI7GL	224	11	22	3	0	260
EI3IX	210	2	8	2	0	222
EI7BFB	173	0	15	0	0	188
EI3EBB	98	0	6	1	0	105
EI7IX	93	1	5	1	0	100
EI7FNB	65	0	4	0	0	69
EI9IW	51	0	2	0	0	53
EI4IX	0	0	50	0	0	50
EI3FFB	15	0	0	0	0	15
EI7FAB	1	3	1	1	0	6

Final updates for 2002 and new entries for 2003 to
Joe EI3IX joe_fadden@yahoo.com

Wireless Networking

An overview with Daniel EI9FHB

Wireless Networking

A new breed of wireless users are taking Ireland by storm. These people are setting up a national network of wireless access points which allow members of the public to connect their computers wirelessly.

In the beginning....

For about a decade now slow wireless computer radio link systems have been available to business users to link computers in offices. These remove the need for normal wired network cables by using radio waves to link computers. These use low power licence exempt radio spectrum similar to the "walkie talkie" or "cordless phone" bands. Like packet radio these often operated at slow speeds and so had limited uses.

Over time these technologies have been improved and the range and speed have increased. Nowadays speeds of over 1,000,000 bits per seconds are practical. The current flavour of these uses one of twelve radio channels on the 2.4 Gigahertz 13cm Licence exempt radio band. These digital devices are very clever and if interference is found on one channel they can automatically change channels and re-try packets without the user noticing.

Stretching the boundaries

Even though these systems were originally designed to send radio computer signals around offices some people have found novel uses. By using antennas mounted outdoors a range of up to and above ten miles can be achieved within legal power output levels.

Some groups have connected the computers of hundreds of houses and schools wirelessly together to form a wide area computer radio network. This allows everyone to share files and communicate without any telephone call costs or internet access charges.

By linking schools in this way pupils can meet fellow pupils in distant schools and chat and exchange messages using computers.

What's the Cost?

Unlike mobile phones, these systems do not require base stations and the units can talk directly to each other without the per minute connection charge we love to hate.

The speeds offered are usually greater than ten times FASTER than a normal telephone modem.

ISDN is slow when compared with the speeds of this wireless communication.

In order to combine the efforts of many groups currently using this technology a non profit organisation has been set up to try and offer advice and support to those wanting to set up their own system in their neighbour-



hood. This group pioneered by a Wexford man is trying to build a very low cost national system.

What does it all do?

Once the computers are connected any service that is wanted can be provided. Common uses are file sharing, video conferencing, e-mail, internet access and network gaming.

Public Places

In the USA some people are offering free or low cost internet access in public places like parks or shopping centres. Laptops are used to connect to the network that is ideal for business travellers and tourists alike.

What's needed?

Aerials

A roof mounted aerial is needed that has near line of sight to the place with which you need to connect.

Directional Antenna-

For long range links between two places. Gain 11 to 24dBi (Old MMDS dishes will work)



Omni

For connections in many directions. Gain 8 to 16dBi

Coax

Choice of very low loss coax is extremely important. Short runs and use of LMR400 or Westflex 103 or similar is vital as losses at two and a half gigs

using normal coax can be massive. Some people prefer to mount the radio transceiver at the antenna to shorten coax runs.

Transmitters/Receivers

This is a photo of a complete transmitter, receiver and radio modem all ready-made to slot in to a computer.



On the side is a connector for the antenna or coax cable.

Software

The software needed to communicate comes free with the transceiver. It is very easy to use and shows signal strength and connection speed. Computer programmes for chat, internet browsing and video conferencing are freely available. This is the easiest part of any set-up.

Nationwide Coverage

Ideally blanket coverage would be available across Ireland but since this technology is new most users are in high population areas such as cities and towns. However one link system can cover 10 miles enabling those in the countryside to connect to each other over long distances. If you can communicate with a nearby Amateur at very low power levels on 70 cm then you may be able to set up a link.

How you can help

Nationally the Irish Wan organisation is looking for more members. Membership is free and we are currently experimenting with the best ways to use the technology to maximise it's usefulness. Since the equipment does not require a radio licence it is open to Amateurs and Short Wave Listeners alike.

If you are interested in this technology then first visit the Irish Wan web-site which is

<http://www.irishwan.org>

On the site there are links to the Dublin, Limerick, Cork, Wexford and Clare groups.

There are members active in other parts

(Continued on page 11)

(Continued from page 10)

of the country too.

Most areas organise monthly meetings which are advertised on the web site. These meetings will soon be advertised on the IRTS weekly news and are also advertised on the web site.

For any queries or further information not answered by the web-site contact Daniel Cussen EI9FHB by e-mail dan@post.com or by phone 087-7731120.

Technical Details

Frequency of operation
2,400 to 2,480 MHz
Licence Exempt Band

Power output

Standard cards are 0.03 Watts with maximum effective radiated power allowed up to 0.1 Watt

Modulation

Spread spectrum frequency hopping

Other users of the 2.4 GHz band;
DECT cordless phones, wireless video cameras and radio experimenters.

75th Anniversary of the first Transatlantic Television Transmission

On the 9th of February 1928, Baird successfully transmitted 30 line television pictures from London to New York.

The video signals were generated at his laboratory in Long Acre and sent by phone line to Ben Clapp's 2 kW amateur radio station G2KZ in Coulsdon near Croyden.

The RF signals were received in Hartsdale New York by Robert Hart W2CVJ on his one valve TRF receiver. W2CVJ also provided a link back to London.

The event was commemorated on the 8th of February by amateur band transmissions using the G2TV callsign originally issued to Baird for his experimental work and included low definition television signals.

The NBTv (narrow band TV) Saturday morning amateur radio net that runs from 0800 to 0830 on 3.7MHz was expected to include the sound of a 32 line TV signal for short periods.

Letters Page

CQ Ireland! Dia Dhaoibh From Wisconsin!

Last year I made myself radio active again after a few years QRT, and after joining a local club, my interest turned a bit more global. With that in mind I hit the internet and found many radio organizations to join. Although my Irish connections more historical and genealogical than physical, the IRTS caught my eye. On a whim I decided to join and I am so glad I did.

First, let me say that the service from the Society has been outstanding!

I received my membership package and issues of Echo Ireland in very short order, probably more quickly than any U.S. organization would have responded. I have been reading the Echo with great interest, noting many similarities, but also a few differences.

One activity that seems to be popular there that we have not really explored is Summits on the Air. It looks like a wonderful way to encourage QRP and portable operations in a way that is accessible to everyone. I also noticed the comments about the passing of packet, which is something we have gone through here in the States. Our local club, the Wisconsin Valley Radio Association, is helping to keep packet alive through extensive use of APRS.

If you would like to see what we are doing, please visit our website at <http://www.dwave.net/~wvra/>. After you are done snickering at the inelegant graphics and wondering at the melange of typefaces, I hope you will send me, the humble webmaster, an email.

Finally, I hope that if you hear my weak wavering signal squawking out of your receiver, you will show me some of your famous hospitality, and dig my callsign out of the noise. I also look forward to the day that perhaps I will get a chance to work some of you on two meters. I understand that if I am able to do that from my home QTH, I get some kind of glassware. Definitely something to keep in mind. If any of you find yourself travelling in the U.S., I hope the Midwest is on your itinerary. If so, I invite you to come see Wisconsin and our beautiful Northwoods. I would be more than willing to act as host and tour guide for anyone passing through.

Thanks again for having me as a member, and I hope to see you on the air very, very soon.

Bill Coady, WB2TLQ
Wausau, Wisconsin



Tipperary Radio Club Members on a Hill Walking Activity.
John EI2JB, Tommy EI2IT, Hugh EI2HI and Hazel EI9IZ



Data Modes Update

Some new Modes and tips for Data Mode QSO's – by Richard EI2ID

In recent years there has been a storm of new Data Modes come onto the amateur bands. Some of you may be familiar with some of them, such as Packet, Pactor, PSK31, and you might recognise them if you heard them, but recently there may be a few sounds around the Data modes section of the bands that you may have wondered 'What is that noise?'

In the last two articles I explained how to get active on the Data Modes with DSP software for your PC and how to connect up your Transceiver for TX/RX through a PC Soundcard.

(See Echo Ireland issues: March/April & May/June 2001. If you would like a copy of the articles contact me).

Some of you may have bought commercially made interfaces such as the Rig-Blaster etc. I won't cover interfaces here but I will discuss the new Modes available to us through these DSP Programs. Just recently I was tuning through the Data section of 20m and heard what I thought was commercial data in the amateur section, it sounded like a musical instrument, a whistle or a Piccolo. This turned out to be a new mode called **MFSK** which uses Multiple Tones.

In fact in the amateur version of this mode, 16 tones are used (sometimes referred to MFSK16). There is now available to us plenty of software designed specifically to decode and transmit in these modes.

One that is particularly good is a program called **Mixw2** by UT2UZ & UU9JDR, (30 day FREE DEMO or €35 Registered). This is a multimode decoder with a load of features designed for radio amateur use.

The program that uses DSP techniques, decodes no less than 14 different Data Modes, including **PSK**, **RTTY**, **Amtor**, **Packet**, **Pactor** and **MFSK**, plus a through-soundcard DSP filter for **SSB** & **CW** receiving.

If you've tried **PSK** then you will be pretty impressed with its ability to get through high levels of noise and QRM, well the new mode **MFSK** does it better and if you're familiar with using software programs like **WinPSK**, **Digipan** etc, then using **Mixw2** will be no problem.

The program uses a 'waterfall' display that shows any signals heard by your

receiver and all you do is place a cursor over the signals with your mouse, click and the program starts decoding it.

You can then click on another signal and a new window pops up and starts decoding, the program will allow you to decode different Modes at the same time! In the program you can change Mode Settings to suit the signals you're receiving.

For instance in **Packet** mode you can select 12 different protocols for HF or VHF/UHF.

The usual **RTTY** modes are all covered too, which you can change Mode Settings for different speeds/shifts etc, and it includes a self-logging section with serial number insertion for contests.

The program also does **CW** but in my opinion it doesn't do it as good as the **CWGet** program that I featured in one of my other articles.

Of course the **Mixw2** program transmits in all modes (except **Pactor**, you need a **Pactor** TNC for that, but it does decode it).

As with all these DSP programs, proper setting up of the soundcards inputs and outputs is essential. Overdriven transceivers cause serious QRM to other users on the band. Some seem to think it will get them heard, but it doesn't, it just ruins it for everyone else on the band (and makes the distorted signal unreadable by others too!).

A new feature in **MFSK** (only in version 2.07 up of Mixw2) is the ability to send a picture during a QSO. Small JPEG files can be sent (usually mug shots of the op!) in B/W or colour. **SSTV** and **FAX** are also done by the program, the **SSTV** section is pretty good and easy to use.

I have noticed how small pileups are started whenever 'EI' Data signals are heard on the bands, so lets get EI heard a bit more, download the program and get cracking on the Data Modes sections of the bands.

It's quite a challenge to get your first QSO over with and the buzz you get makes using these modes like the first time you had a **CW** or **SSB** contact. Like all the other modes, there are loads of other users looking for DXCC contacts etc, on these modes and quite a few are new users too.

Ever heard of **Q15X25** ? Well this is a new **Packet** protocol and can be heard on 15 & 20m bands. It is claimed by HF Packet users that this mode will be THE Packet mode for the future.

Mixw2 does this mode with a Plugin from the **Mixw** website.

What about Radio Control? I use the **Mixw2** program in CAT mode to control my Transceiver, so if you're looking for PC control programs for your radio – this does it.

It also allows **PTT** and **CW** sending through the CAT interface. As far as I've seen, all CAT capable models are usable including Yaesu, Icom, Ten-Tec, Elecraft K2 and Kenwood.

I use it with my Kenwood TS2000 and the CAT no way slows up the radio.

If you're looking for just a PC control program try: **HAMPORT**, a simple CAT program.

Of course all these modes need a PC and your ability to use the programs, and I know some of you hate Digital modes, but this is just another aspect to the hobby.

Quite a few of you use E-mail, so you've all probably got PC's anyway, most of you in the shack.

The biggest problem with the PC/Radio combination is: QRM. Noise induced by the PC into the radio that can be devastating...S9 of noise! Terrible!

What can you do about it?

The simple remedies are: keep the leads from radio to PC short and well screened; use toroid ring filters on the mains leads to your PC and Radio power-supply; use toroid ring filters on your audio leads (cheap PC speakers pick up RF and promptly dump it back into your radio via interconnecting leads, so try disconnecting the speakers – you won't need them when transmitting anyway).

Direct your antenna leads well away from your PC – if possible bring the coax into your shack inside metal conduit – right up to your radio antenna socket.

I discovered the main culprit for interference in my shack was my 15" Sony monitor.

Monitors radiate allsorts of rubbish.....if you can, get a flat screen monitor, they hardly radiate anything.

(Continued on page 13)

(Continued from page 12)

So have fun, keep the power down (about 40 watts is plenty) and don't over-drive your transmitter.

Here are the websites for the programs mentioned in this article:

Mixw2 (DSP Data Decoding Program with CAT and Logger): www.mixw.net

Hamport (Simple Transceiver CAT Program): www.dxsoft.com

Q15X25 (Packet Mode DLL, put in Mixw2 folder): www.mixw.net

Operating Frequencies: 3.580Mhz; 14.080Mhz; 21.080Mhz & 28.080Mhz approx.

There are others of course, so listen out for them. Internet Websites dedicated to these modes usually list frequencies and sked times.

Search the Internet for "DSP Radio Software" and you'll find a ton DSP programs to play with!

Demo versions of programs and previous articles by me can be e-mailed to you. Or if you have any queries about these topics e-mail me at: rebbs@oceanfree.net

73 de EI2ID.



INTERNATIONAL PHARMACISTS HAM GROUP

www.malpena.it/iphg/index.htm

The I.P.H.G. results from an idea of Andrea Pagliuola, IZ7ECB and Pier Luigi Anzini, IK2UVR.

Andrea, in early days of March 2002, made a search on internet inserting the key-word "Pharmacist". The search gave him many call-signs of OM's Pharmacists. Andrea sent them all an e-mail with the intention of making a web site where HAM Pharmacists all over the world would be listed.

He got many e-mails in return, in one of them Pier Luigi told him it would have been nice to create a Ham Group open to all Pharmacists over the world and he was disposed to create a proper web site. After some trials, the web site was built, with a proper logo, a forum, and a page for each member.

Recently the site has moved on a new and stronger server. The original members were about 20, and many other still are joining the Group, from all the continents.

On March 18th, 2002 the I.P.H.G. has been constituted to unite HAM Pharmacists, to promote radio-initiatives, to establish friendship and to help the people who needs any possible aid the Group can provide.

The Group is apolitical and does not recognize any difference of race and religion among its members.

Membership:

The Membership is free and open to all those that are both Pharmacists and Radio Amateurs all over the world.

At the moment there are over 100 Members in 30 Countries.

Announcement:

High Level 70 cm band transverter for contest-running

Many customers asked for a High Level transverter from 28 MHz to 432 MHz. Now, we decided to develop such a product. It will have the following specifications:

- | | | |
|----------------------------------------|---------------------------------|--------------------------|
| -> Large-signal receiving preamplifier | -> three-pole helical filter | -> 20 Watt LD MOS FET PA |
| -> 50 mW high level mixer | -> low noise crystal oscillator | -> divided input for RX |

28 MHz input power can be adjusted between 1 mW to 100 mW

The 2 m module will follow after ending this development.

NEW

DB6NT 13 cm Converter for OSCAR 40 Downlink

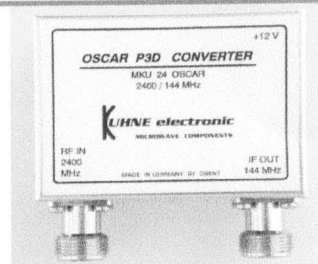
SUPER LOW NOISE CONVERTER for conversion of the 2400 MHz microwave downlink band to the 144 MHz or 432 MHz band. Employing a balanced mixer and helixfilter and using a ceramic filled circuit board as well as state of out circuit design and modern HEMT-FETs, this converter was developed with outstanding specifications. The converter is able to be mounted in a waterproof case direct on the antenna. Built-in bias "T". For power feed up the coax cable.

Input frequency range: 2400...2402 MHz
Noise figure: typ. 0,6 dB NF
IF frequency: 144...146 MHz or 432...434 MHz with option 70 cm IF
Gain: min. 26 dB adjustable

Typ: **MKU 24 TM OSCAR**, built-in a waterproof case € 287,-

Bias tee MKU 270 for supply the converter via coax cable:

N-Conn.: MKU 270 N € 46,- BNC-Conn.: MKU 270 BNC € 41,-



MKU 24 OSCAR € 255,-

www.db6nt.de
KUHNE electronic GmbH
MICROWAVE COMPONENTS

All Modules incl. test certificate.
Versions can be supplied for
other frequencies.
Catalog for request free!

Kuhne electronic GmbH
Scheibenacker 3, 95180 Berg/Oberfanken
Tel. 00 49 (0) 92 93 - 800 939
Fax. 00 49 (0) 92 93 - 800 938
E-mail: kuhne.db6nt@t-online.de

Irish Radio Transmitters Society

Book Sales

Books, Maps, Logbooks, Badges etc.

S.A.E. to

Peter Grant, EI4HX, 37 Glenmore Park, Dundalk, Co. Louth
Telephone 042-9332641

Irish Radio Transmitters Society

Outgoing QSL Bureau

Send your outgoing cards to
Hugh O'Donnell, EI2HI
Baurleigh, Bandon, Co. Cork.

The Irish Packet Scene at the Start 2003

By Dave Court EI3IO

Introduction

In a recent *Echo India* there was mention that packet appeared to be in decline. The question may therefore be asked, is packet alive and well in Ireland? Whilst packet may be in decline for some applications in some parts of the country; packet seems to be holding its own or even increasing its penetration for some particular niche uses. Before coming to the thrust of this article I have to make two admissions. Firstly, I am really a user of packet and am not too IT literate; however starting my own business and in addition launching some amateur packet nodes have required me to get to grips with practical IT in recent months.

Secondly, whilst first licensed in 1963 as G3SDL I am a relative 'newbie' in Ireland, having arrived in 1997. I also have no Celtic origins as far as I am aware although my Grandmother was Scottish and who knows some of my ancestors may have fought the Romans in the wilds of Kent. Back to packet! Since I did not establish my Experimenters station until 1998 (with the exception of some limited 50 MHz operation from Blackrock in 1997), I did not experience the heyday of packet radio in this country but I did use radio based packet cluster and amateur packet systems during the late 1980s and 1990s in both London (UK) and Copenhagen (DK).

So why am I writing this article? Firstly, to express some opinions on how packet in Ireland in the future might develop and flourish in to-days IT and Internet world. Secondly, to describe what I understand to be the current network in Ireland with a description of the activities and facilities already available with the hope that other Experimenters will be encouraged to join the network or simply use the facilities available in and around the nodes that form the Irish packet network.

In addition I'll also touch on how you might participate in packet type activities either by radio or via the Internet.

What is Packet?

Applying the KIS principle (Keep it Simple), packet is a technology that per-

mits the transmission of information in bursts or packets. The basic amateur standard for packet radio, AX25 is derived from a low data-rate international standard known as X25. But amateurs often call a group of applications that make use of the AX25 technology by the generic term 'packet'. This can get confusing as most of the applications can also sit on a wired local area network or the Internet as we shall see when we examine these applications a little more closely.

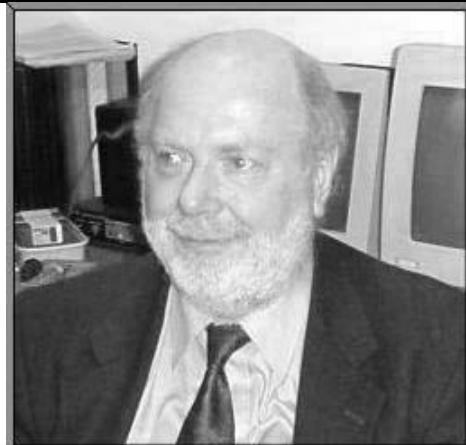
The applications

So what are the applications commonly found on packet? Well in days gone by the most common application was information provision and Email. In amateur parlance, information was provided by bulletins sent around the packet network and Email or packet mail was downloaded through logging on to a local bulletin board node (BBS) and retrieving your mail. For a variety of reasons I would guess that most amateurs today use Internet based services to achieve the same result, mainly because of the higher data and transfer rates available. Admittedly there are higher data rate AX25 possibilities but most of us in the first instance would ask why in today's climate duplicate an information retrieval network when it can be done more efficiently on the Internet.

In addition to the BBS concept and the development of nodal stations to facilitate connections around the network, two other applications have developed which satisfy some niche amateur data requirements. These are DX Packet Cluster nodes providing real-time information to the DX community and APRS (Automatic Packet Reporting System) nodes, which collectively form a multi user packet network with a map display providing simple messaging and location based information.

Packet and the Internet

If you've reached this stage in the article you will no doubt guess that there are considerable synergies between the Internet and Packet Radio. So much so that most of the major packet applications have been reproduced virtually on the Internet. Nowadays you will find a



great deal of interconnectivity between the two media. Thus you can often find a BBS, Packet Cluster or APRS node with radio as well as Internet ports.

So what are the advantages of integration with the Internet? The first is information and data exchange; the packet radio network for all intents and purposes can be considered as a low data rate intranet extension to the global Internet. This packet intranet can be considered essentially as a virtual network within the Internet solely for licensed radio amateurs. Indeed all Internet packet nodes use the same call signs for identification that one would use on the amateur bands. There is thus the possibility for fast data exchange around the World. The second advantage is the bandwidth resource itself. In countries such as Ireland where there is no broadband data radio link network established, the Internet can be used to do the same job. Thus once cost effective always-on Internet services have been established all over the country a link network using the Internet could easily be established. In this regard an Internet link has been running successfully for several months linking NETROM nodes EI3IO-7 (Co Dublin) and EI7MRE (Co Mayo).

By now you should be getting an impression that packet radio is undergoing significant evolution around the World to utilise new technologies to the greatest extent possible and to incorporate innovative developments in the services offered. On top of this, legacy back to the origins of the packet network is also

(Continued on page 15)

(Continued from page 14)

catered for and most services can be obtained via radio access and a 1200 Baud terminal node controller (TNC).

What's in it for me?

In the space available it's not easy to go into all the applications. But if you're a DXer and log on to a radio or Internet based DX Packet Cluster node you will be able to:

- Continuously monitor in real time what DX stations are active and their frequency of operation,
- Add to the DX knowledge base by spotting DX stations heard,
- Send and receive real time talk messages and cluster-wide announcements,
- Send and Receive cluster mail (Email) to other DXers,
- Access data bases, news sheets and information to help DXing,

There is also scope for SWL DXers to get involved as software is available that will provide real-time DX spots from radio networks in a 'monitoring' mode only.

If you establish a fixed or mobile APRS station you will be able to:

- Send your geographical coordinates and other relevant data to the world-wide APRS network,
- See the location of APRS stations on maps Worldwide,
- Determine the speed and direction of mobile stations Worldwide,
- Access the data from weather stations Worldwide,
- Send and receive short messages to/from other APRS enthusiasts.

In addition the general packet network will allow you to:

- Surf the packet network Worldwide,
- Connect to DX Clusters, BBS stations and Packet Switches, which are not in radio range of your station.
- In some cases permit you to 'telnet' to any amateur packet station having an open telnet port.

I'm interested in Packet, what equipment do I need?

To try your hand at packet radio you have to be reasonably sure that you are within radio range of a Node station or a Packet Switch Node. A quick listen on a scanner or your VHF/UHF transceiver on the frequencies mentioned below will give you a clue. If you hear regular bursts of non-voice transmissions then you're in with a chance.

Having established that you stand a good chance of accessing an RF node you will need a Computer (an old 486 will do nicely), a standard FM or Phase Modulated transceiver. Don't forget an ex CB radio in the case of 29 MHz or an ex business radio can provide an excellent means for accessing packet radio nodes.

The only other piece of hardware required is a Terminal Node Controller (TNC) which can be acquired second-hand for between €50 and €100. You don't need one of the all-singing all dancing TNCs, the Paccomm Tiny2 or AEA-Timewave PK88 will do nicely.

A TNC can also be emulated using software and a PC's sound card, see <http://www.qsl.net/hamscope/> for information. To use a sound card you will need a Pentium computer with at least 32MB of ram and a 16 bit or better sound card, ideally running under Windows 98. A PTT and audio interface circuit is also required, which can be easily constructed with parts, costing little more than €10.

Access to the Packet Network via Internet is probably easier and there is no cost overhead if you have an always-on Internet connection. If you don't the packet radio option is certainly cheaper from the home location. All you need to get started with the Internet packet applications is your PC and ensure that the telnet and java clients are enabled. After a while you may wish to upgrade to specialist amateur produced software packages for Internet packet applications, which have a similar look and feel as the terminal programs used for TNCs and packet radio.

Accessing the Irish packet network

Decide which application you want to try e.g. BBS, DX Cluster or APRS. But don't spend too much time on this as it's generally just a software question and appropriate application software can generally be obtained as freeware or shareware until you're more certain of

what you want to do. Secondly you need to decide whether you want to access the packet application by radio or the Internet.

For radio access, ensure you have coverage from a local node and then connect a radio to a PC by means of a TNC or sound card. Then obtain the correct client software for the application required. For Internet access you will by now realise that all that is needed is a PC connected to the Internet.

Let us now look a little more closely at the DX Cluster, APRS, BBS and packet networking.

DX Cluster

As an avid DXer especially on 1.8 and 50 MHz, the packet cluster network is the real reason why I established a packet station in about 1989. I used to regularly connect to the North London DX Cluster node GB7DXH on 70.325 MHz. It now gives me great pleasure to offer similar facilities to fellow amateurs on the same frequency in the Dublin area.

Dick Newell, AK1A during the late 1980's, created the DX Cluster concept. As mentioned earlier this enables amateurs interested in DX'ing to exchange DX related-information in a real time manner. Packet Cluster nodes using appropriate software are linked to other stations who have installed compatible software by radio or Internet links. These nodes when connected together are called a cluster. Clusters are then connected to other clusters, expanding the network.

Addressing specifically DX Cluster nodes EI3IO-3 (radio) and EI3IO-4 (Internet) in Co. Dublin. In addition to providing real-time DX spotting facilities, access to a number of databases is provided such as QSL routes, QSL managers, VHF locator square information, IOTA data, Irish postal rates for QSL cards, the Irish call book etc. Also provided are regular bulletins, which are also archived for future reference. Included on EI3IO-3 and EI3IO-4 are the ARRL, OPDX and 425 DX news-sheets as well as the text of the weekly IRTS and RSGB news broadcasts.

In Ireland there are a number of DX Cluster nodes and packet switches providing routes to DX Cluster nodes.

(Continued on page 16)

(Continued from page 15)

Moving North to South through the country 1200 Baud cluster nodes are currently implemented in Ireland (EI) at: **Ballybofey**, Co Donegal (EI5TCR on 70.3125 and 144.825 MHz),

Castlebar, Co Mayo (EI7MRE-3 on 144.850 and 439.450 MHz),

Shankill, Co Dublin (EI3IO-3 on 29.250, 70.325, 144.925 and 433.675 MHz),

Bray, Co Wicklow (EI6CPB on 70.325, 144.925 and 432.650 MHz)

and **East Cork** (EI8IR on 70.325 and 144.600 MHz).

Those living in coastal or border areas may also be able to access other nodes in the British Isles, for example GB7UDX (on 70.3125, 144.900 and 432.675 MHz) at Lisburn, near Belfast has recently reappeared and GB7ADX (144.900 and 432.675 MHz) in Anglesey should be accessible from some east coast locations.

Packet switches with routes to Irish nodes are located in:

Co. Cavan (EI7KRC-4 on 70.325 MHz and EI7KRC-2 on 144.825 MHz),

Greenhills, Co Dublin (EI7NET-9 on 70.325 and 144.925 MHz) and the

Arra Mountains node near Killaloe, (EI7M-4 on 70.325 MHz).

But if you'd prefer to use your dial-up modem, cable-modem or ADSL connection at home or keep tabs on what you are missing in the way of DX when sitting at the office desk, then you may want to try Internet access. 3 nodes in Ireland are currently equipped with an Internet port and two of these in addition provide access to their Internet node through a Web page by launching a java applet.

Imagine you are sitting at the office desk what do you do? First a quick prayer that the company's firewall doesn't thwart your intentions would probably be in order! Click the start button on your PC (which is connected to the Internet). Then click 'run' and type the word 'command' and then execute a carriage return. If you want to access the Mayo DX Cluster (EI7MRE-3) type 'telnet mayodx.ath.cx 9000' and again execute a carriage return. You should then be presented with a call-sign login command. Just follow instructions! For EI3IO-4 in Co Dublin follow the same procedure but use the command 'telnet shandx.ath.cx 5000' and for EI6CPB in Bray type 'telnet wdx.ath.cx

7300'. And you can log into your favourite cluster node from any PC, anywhere in the World, which is connected to the Internet and has the Telnet and Java clients enabled.

Web access couldn't be simpler, for EI3IO-4 the URL to place in your web browser is <http://shandx.ath.cx/cgi-bin/dxnet.cgi>. Additional node information can be found at the SHANDX home page <http://shandx.ath.cx>. Web access to EI6CPB can be effected via <http://wdx.ath.cx>.

The command set for DX Cluster nodes can generally be downloaded from a help file on the node itself or some sys-ops provide access to the help file from the cluster node's web-page.

Taking nodes EI3IO-3 and EI3IO-4 as an example again, a help file is downloadable from <http://shandx.ath.cx/commands.pdf>.

But in order to help you to get started, here are a few basics.

When you first log on you will be asked for some information, your name, your QTH e.g. Dublin and your location either as a latitude and longitude or as a 6 character Maidenhead locator e.g. IO63WF. This will enable the node to provide you with bearing information to DX stations.

To transmit a DX spot e.g. to inform the world that 3Y0IE is being received at your QTH on 50.230 MHz the command line would be: DX 50230.00 3Y0IE, the frequency must always be typed in kilohertz.

To send a talk message to a station on the cluster e.g. EI3IO the command line would be: T EI3IO blah blah blah.

The command SH/C will provide you with information about the cluster in terms of nodes and users that are active and the command SH/DX will provide you with information on recent DX spots.

That's enough to start with so take the plunge and give it a try.

APRS

Concerning APRS, at this point I would like to quote from Roger Barker, the UK author of one of the most popular pieces of APRS software, UI View, "I think packet in the UK is in danger of becoming a rather soulless, unfriendly mode. It is completely dominated by the use of BBSs - Most amateurs who set up a packet station never use it for anything



more than connecting to the local BBS and reading/sending messages. Use of packet for "chatting" to other local stations is quite rare. Also, the fact that packet is part of amateur radio, and therefore, like all other amateur radio modes, it is supposed to be used for self-training and investigation, has tended to be lost as a result of the domination of the mode by the BBS network."

APRS has not really established itself to any great extent in Ireland but the idea of the system is to provide geographical information on packet stations (fixed and mobile) as well as to provide a messaging facility.

To quote Roger again, "UI-View aims to make packet a little bit friendlier, and to add some extra interest by offering something slightly different. UI-View's three main features are:

- It will plot on maps the locations of stations that it hears transmitting UI-View compatible beacons, so you are aware of who is active on packet around you. (This can also act as a useful propagation indicator.)
- It will show weather reports from any stations sending out UI-View compatible weather beacons.
- It has a casual messaging facility, which is designed to encourage local packet "chat".

In most countries APRS has been established on its own frequency, for example

(Continued on page 17)

(Continued from page 16)

in Europe generally including the UK, the frequency is 144.800 MHz.

However there are two problems in Ireland. Since the number of packet users is small most packet radio activities are concentrated on one 144 MHz RF channel in the local area. This means in practice that because traffic levels are generally low all radio based packet applications currently seem to be able to work on one 25 kHz 144 MHz channel.

Furthermore, using the same frequency as the DX packet cluster enables cluster sysops to provide APRS facilities as well. Alternative arrangements will have to be made if as a result of this article there is a major upsurge in packet activity but if that occurs then it is likely that a new generation of stations able to establish packet nodes will surface.

APRS information is therefore regularly provided on all frequencies used by DX Clusters in the Dublin and Wicklow areas e.g. 29.250, 70.325, 144.925, 432.650 and 433.675 MHz.

In addition EI7MRE in Co. Mayo transmits APRS information on 144.850 and 439.450 MHz.

These stations also provide Internet APRS gateways or IGATES. This allows location-based information from amateur stations in Ireland to be passed through to Internet APRS servers.

In the reverse direction, Internet derived information from 'local' stations is transmitted on the packet network served by the stations mentioned above. EI3IO-3 opens its IGATE connection between 12.00 and 22.00 UTC. Local stations are considered for this purpose to be any APRS station in Ireland, Northern Ireland, the Isle of Man, Scotland and Wales.

If you want to try out APRS then download a copy of the 16 bit version of UI-View which will let you get started, <http://www.ui-view.com/>. The 16-bit version has most of the functionality of the 32-bit version but it will not allow you to establish an Internet Gateway. For radio APRS applications, UI-View will interface with a TNC in terminal mode or the Packet Engine used to drive a PC's sound card. To see how UI-View works with the Internet it is possible to connect to a variety of APRS servers around the World but beware the download traffic from the Internet can be very high. The Help file provided with UI View is also very comprehen-

sive and provides a good overview of APRS and UI View.

Networking and BBS access

One of the more traditional packet radio activities was to network through the various packet switches to see where you end up! Well that possibility exists again in Ireland thanks to Internet connectivity. Let's look at the basic network in Ireland and the interconnected NETROM nodes.

The network currently comprises EI4DW-8 (70.3125 and 144.825 MHz) in Ballybofey linked to the Kells Radio Club node, EI7KRC (70.325 and 144.825 MHz) in Co. Cavan, onwards then towards Co Tipperary and the East Cork Radio Group's node EI7M-4 (70.325 MHz) near Killaloe in the Arra. EI7KRC in Co. Cavan can also link with EI7NET-9 (70.325 and 144.925 MHz) and EI3IO-7 (29.25, 70.325, 144.925 and 433.675 MHz) in the Dublin area. Continuing then to EI6CPB-7 (70.325, 144.925 and 432.650 MHz) in Bray, Co Wicklow and EI7MRE (144.850 and 439.450 MHz) near Castlebar, Co Mayo. The latter link is interesting and perhaps suggests a way to develop the network further. The two NETROM nodes in Shankill, Co Dublin and Castlebar, Co Mayo use a pseudo radio link over the Internet using a concept called AXIP (AX25 over Internet).

It is unfortunate that the Cork packet repeater (digipeater) on 144.600 MHz has been off the air for some time, however a port on 439.875 MHz is working but in practice only provides linking to Waterford. This would be an example of where a NETROM node might be established, linked by AXIP to one of the other NETROM nodes with Internet connectivity. What about the Midlands and Shannon areas? Perhaps we should adopt the slogan, 'Let's get connected'!

At EI3IO-7 the 1200 Baud port on 29.250 MHz is regularly (during F and Sporadic E propagation events) linked to SV2DXC in Athens. At the 3 NETROM nodes with Internet connectivity, EI6CPB-7, EI7MRE and EI3IO-7 various other permanent routes are also available to the packet user.

Using EI3IO-7 as an example, in addition to the Irish DX Cluster nodes EI3IO-3, EI3IO-4, EI6CPB and EI7MRE-3 it is possible to directly access DX cluster nodes in Cyprus, 5B4NDX, the United States, K2UT and

K4JA, Denmark, OZ5BBS-7 and France F5MZN-3. When you then include the permanent routes available from the other Irish NETROM nodes, DX Cluster nodes in the UK and several other countries are also available to the Irish DXer. All the user has to do is connect to the node (in this case EI3IO-7) and then type C K4JA if you'd like to log onto the DX Cluster node in West Virginia.

In addition to DX Cluster nodes, permanent routes are also open via EI3IO-7 to BBS nodes and packet switches in Canada (VE7SFU), Italy (IW5DAM), Cyprus (5B4NDX), the UK (GB7WLR) and the United States (WA7V). That should provide plenty of scope for 'surfing' the packet network!

Radio or the Internet can be used to access the NETROM nodes. For radio access, a normal terminal program is used with the TNC or Packet Engine.

In the case of access via the Internet or Web, a similar arrangement is in place for EI3IO-7 and EI6CPB-7 as was described for DX Packet Cluster node access in an earlier paragraph.

Access by telnet to EI3IO-7 and EI6CPB-7 is achieved by the command 'telnet shandx.ath.cx 9023' and 'telnet wdx.ath.cx 7400' respectively.

Web access is available via <http://shandx.ath.cx/cgi-bin/node.cgi> and <http://wdx.ath.cx> respectively.

Last but not least if the fixed routes provided do not give access to the stations you would like to obtain bulletins from etc, there is a telnet manager at NETROM nodes EI3IO-7 and EI6CPB-7 which would permit a user to establish a telnet connection via the NETROM to any Internet packet station, anywhere in the World.

Need more information?

I have included some web-based links here where more information on packet radio and packet applications can be obtained:

<http://www.tapr.org/tapr/html/pkthf.html>
Digital Communications Virtual Library
<http://www.choisser.com/packet/> Introduction to Packet Radio
<http://www.aprsuk.net/> APRS in the UK
<http://www.apritch.myby.co.uk/uiview.htm> APRS information
<http://www.qsl.net/soundcardpacket/index.html> Setting up PC Soundcard for Packet
[http://www.dcc.rsgb.org/RSGB Digital Communications Committee](http://www.dcc.rsgb.org/RSGB_Digital_Communications_Committee)

(Continued on page 18)

(Continued from page 17)

<http://www.cestro.com/pcluster/> DX
Packet Cluster WebNet
<http://wdx.ath.cx> Wicklow DX Cluster
<http://shandx.ath.cx> Shankill DX Cluster
Or you may contact one of the Sysops:
Dave, EI3IO - telephone 01 272 2066
(work), 01 272 0864 (after 18.00)
Email ei3io@connogue.com
Brendan, EI6IZ (Sysop, EI7MRE) - tele-
phone 094 902 3326 (after 18.00)
Email ei6iz@oceanfree.net
Hugh, EI6CPB - telephone 01 286
9494 - Email: hugh@ei6cpb.net

Final Remarks

We started by asking is Packet alive and well in Ireland? It would seem that the potential is there but it seems surprising that only a few Experimenters know what is already available to them for minimal outlay.

In addition some basic issues surrounding the packet network have to be addressed and a decision taken on whether more AXIP links should be implemented to link NETROM nodes together where there is no radio alternative. The author believes that packet radio should certainly continue to provide local access to packet applications at data rates of 1200 Baud extending to 9600 Baud as more interest develops. EI6CPB and EI7MRE are already experimenting with 9600 ports and if there's interest shown around the country others will surely follow.

What next?

In addition to AXIP linking and 9600 Baud access, here are a few more ideas. Packet concepts are now becoming part of the GSM mobile telephone menu of services with the implementation of GPRS (General Packet Radio Service). Dependant on the tariffs for GPRS, we might be able to use our mobile phones as always-on DX Cluster terminals within the coverage area of the mobile network. Ideal for /P activities or contests! There also seem to be a number of possibilities for using 2.5 GHz WANs (Wide Area Networks) and other licence exempt data applications for amateur packet purposes (within or outside current band allocations to the amateur service).

Obviously local access to packet applications should ideally be available in all Irish centres of population and the stations involved in the developments described in this article would be keen to help in any way possible. It might even be possible to provide some hardware to

establish a node at a new location or to even run a DX Cluster remotely in another location if that would help a local group of DXers get established. All that a Group would need to do would be to implement the RF side of things, a TNC and a computer with Internet access. Cluster software with a local flavour could be developed and maintained at remote locations at least in the commissioning stage. Is this the amateur version of call centres?

Irish radio clubs might also wish to have some practical demonstrations of packet applications and that might also be arranged. Alternatively phone one of the Sysops and invite him out for a beer to explain more about the network!

Credits

In writing about packet radio in Ireland and especially an article which focuses in some depth on the DX Cluster network, I should like to record Irish packet cluster users and sysops thanks to, Declan, EI6FR who kept the node EI7NET on the air in Dublin for many years and who did not have the benefit of the Internet to maintain links to the cluster network outside Ireland. I should also like to mention Ronnie, EI9ED who keeps EI7KRC on the air from Kells. EI7KRC is a key nodal point in the packet radio network. On a personal note I should also mention Hugh, EI6CPB my local IT guru (and also a sysop) and Niall, EI6FB who is a local to me in Shankill, whom I met as a result of causing TVI! Subsequently Niall has been extremely supportive in providing various pieces of IT equipment, which has facilitated the development of the packet facilities at EI3IO.

Let us also end with a question. Who will be the first newcomer accessing the nodes of Ireland?

Dave Court EI3IO - December 2002
Connogue,
River Lane, Shankill,
Co Dublin.

STOP PRESS

Since the time of writing this article, the packet nodes EI3IO-3 and EI3IO-4 have been combined under the call EI3IO-4.

The 2 metre frequency of EI3IO-4 has also been changed from 144.925 MHz to 144.875 MHz. EI6CPB and EI7NET-9 remain on 144.925 MHz



The VHF/UHF Antennas at the QTH of Dave EI3IO in Shankill, Co. Dublin.

VHF News

Hi there everybody,
First of all I want to wish everyone who supported the squares table last year a happy new year in 2003. I hope they can continue to support same during the coming year.
So down to business, could everybody send me in their Squares table 2002 updates as soon as possible. Some have already sent in their final totals which should be up on EI7GL's website pretty soon. I am currently taking any square totals for 2003.

Re: The EI7IQ 4 Meter & EI7IQ 6 meter Shields 2002.

These two Shields are up for grabs for activity during the 2002 calendar year. Please submit your logs to Noel Walsh (IRTS Contest Manager), ei2jc@hotmail.com

Your log or logs should include the list of unique stations worked X the number of DXCC countries worked x Maidenhead locators worked, i.e. IO53, IO54 etc. This is the total number of points to be claimed. All simplex contacts on all legal modes made between January 1st 2002 - December 31st 2002 are valid. Repeater contacts do not count.

Unique station, means you can only claim points for a particular station once, this is unless you work the same station in a different square /P or /M.

Please note : Logs for the 4 meter & 6 meter Shields should not be mixed as these are two separate awards.

Regards
Joe EI3IX



Contest Corner

With
Dave EI4BZ
ei4bz@eircom.net

Hello and welcome to another edition of Contest Corner.

While the major contests are now passed, there are several big ones coming up in the next few weeks.

The two biggest are the ARRL Contests and traditionally EI stations do quite well in these. Of course they also provide an excellent opportunity to polish off your Worked All States Award.

Two short contests I recommend you try are the EU Sprints. They only last four hours on a Saturday evening and are great fun. They will be held on the 12th April (SSB) and the 19th for CW.

2m Counties Contest

Our own 2 Metres contest is not too far away, being held on Easter Monday, this year it's on April 21st.

We look forward to an even bigger participation this year.

Field Days

The year 2002 was probably the worst for a long time for our HF field days.

We had severe lightening during the June bank holiday CW event and a major solar disturbance in the first week of September for the SSB event, leading to lower than normal scores.

The level of entries is appalling with only five stations entering the two HF field days last year. To make matters worse, three of these were effectively single operator efforts.

What about the thirty plus clubs we have affiliated? What do they do?

Entering a field day station is not a major effort. It is quite feasible for two or three people to build and operate a station.

We now have effectively a Region One field day with the German Society DARC accepting overseas entries, so the excuse that there is no competition no longer applies.

Trophy Winners.

Listed opposite are the winners of all the IRTS Contest trophies last year.

We hope to see them all in the Green Isle Hotel on April the 27th to pick up their trophies.

Congratulations to all and good luck in 2003.

IRTS Contest Trophy Winners for 2002

Spring Counties Contest

High Power Fixed	Mark Boothman EI9IB
Low Power Fixed	Hugh O'Donnell EI2HI
High Power Portable	South Dublin R.C. EI2SDR
Low Power Portable	Dave Moore EI4BZ
FM Only	Niall Foley EI4CF

Autumn Counties Contest

High Power Fixed	Hugh O'Donnell EI2HI
Low Power Fixed	Thos Caffrey EI2JD
High Power Portable	South Dublin R.C. EI2SDR
Low Power Portable	John Kelly EI4HS
FM Only	Kyle O'Connell EI9FGB

CW Field Day

Pete Daly Cup	Open Section	Wexford VHF Group EI9E/p
Paddy Smyth Cup	Restricted Section	Joe Ryan EI7GY/p

VHF/UHF Field Day

Thomond Trophy	Open Section	East Cork Group EI7M/p
IRTS VHF Shield	Restricted Section	Dundalk A.R.S. EI7DAR/p

SSB Field Day

Paddy Daly Microphone	Open Section	Dalkey Island Group EI1DD/p
IRTS HF Shield	Restricted Section	Dundalk A.R.S. EI2JD/p

Islands On The Air Contest (based on claimed scores)

IRTS IOTA Trophy	Leading EJ entry	EJ4F (EI4GK +)
IRTS DX Trophy	Leading EI single op.	John Corless EI7IQ

CQWW CW Contest

Tom Donellan Cup	Leading EI single op	Ken McDermott EI4DW
------------------	----------------------	---------------------

Contest Calendar

February

8/9th	0000-2400	CQWW RTTY WPX Contest	RTTY
8/9th	1200-1200	PACC (Dutch) Contest	CW/SSB
8/9th	2100-0100	RSGB 1.8 MHz Contest	CW
15/16th	0000-2400	ARRL International DX	CW
21/23rd	2200-1600	CQWW 160m Contest	SSB
22/23rd	0600-1800	REF (French) Contest	SSB
22/23rd	1300-1300	UBA (Belgian) DX Contest	CW

March

1/2nd	0000-2400	ARRL International DX	SSB
15/17th	0200-0200	BARTG Spring Contest	RTTY
15/16th	1200-1200	Russian DX	CW/SSB

April

5/th	1500-1500	SP DX Contest	CW/SSB
11/13th	2300-2300	JA International DX Contest	CW
12th	1500-1859	EU Spring Sprint	SSB
19th	1500-1859	EU Spring Sprint	CW
21st	1400-1600	IRTS 2m Counties Contest	CW/SSB/FM
26/27th	1300-1300	Helvetia Contest	CW/SSB
26/27th	1200-1200	SP DX Contest	RTTY



Meteor Scatter on VHF

With Charles Coughlan EI5FK

CQ MS, CQ MS, CQ MS

Have you ever wondered what some of us are up to on 2 meters when you hear us calling CQ MS on odd frequencies like 144.200 for periods of one minute at the time only to be followed by another minute of white noise, or was it all white noise?

Maybe you were lucky enough to have heard a short burst from OE3JPC saying something strange like EI4DQ QE3JPC R26 R26 R26.

At this stage you might wonder what on earth is going on.

This is the strange world of Meteor Scatter where stations properly equipped on 144/50 MHz SSB/CW work otherwise unworkable stations in faraway places like Croatia, Italy or Iceland or anywhere else for that matter that is about 1000km distant.

The earth is constantly being bombarded by debris in space.

Meteors are created when sand size material ejected from comets in times past hit the earth's atmosphere at high speed up to 50 miles per second and burn up, creating streaks of superheated air which are visible in the night sky mostly as sporadic meteors. These traces can last 5 or 10 seconds or more.

Brilliant fireballs can be seen at other times, when larger particles burn up. These traces are capable of reflecting VHF signals over great distances.

Meteors cannot reach the earth; they burn up at about 50 miles altitude.

Comets are dirty snowballs, left after the formation of the Solar System, which reside well outside the orbit of Jupiter in the Ort Cloud.

Some of these Comets are thought to be dislodged by the massive gravitational forces of Jupiter. The comets in turn are captured by the Sun's gravity and hurtle around it heading back deep into the depths of the Solar system to return again after a period of years.

Comets eventually crash into the sun or are dissolved by its heat as the orbit the Sun or are lost in space altogether.

The dust trail left after the comet remains and the earth passes through these frequently, Dust lanes from older comets extinct for perhaps thousands of years are responsible for "Sporadic Meteors" which the earth encounters constantly.

Almost half of all meteor storms reported during the last 1000 years are associated with the Leonids.

The meteors in the case of this meteor shower seem to radiate from the constellation of Leo hence the name Leonids.

Most people are aware of the high-lighted meteor showers like the Perseids that occur August 12/13th.

This is a reliable shower from a ham radio point of view with rates of about 60 meteors/hour visible to the naked eye under good sky conditions.

This varies in intensity from year to year but there are many other usable meteor showers during the year but these will be mentioned later.

Several hams in Ireland including EI9BG (R.I.P.) EI4DQ, EI2CA EI4IX myself and others have been working this mode with good success over the years; it is a great way to build up your country list or squares tables also.

To work meteor scatter you need a sensitive VHF rig capable of SSB/CW with about 100 watts (although I use 50 frequently) and an antenna with about 9 to 17 elements. Having a very high gain antenna system is often a disadvantage as your beam headings have to be very critical.

Low loss coax and a masthead preamp are advisable.

Modes used for meteor scatter include: SSB, which is centred on 144.200 and 144.400.

HSCW, which is centred on 144.100.

WSJT, which is centred on 144.370.

These frequencies are used mainly for meteor showers with the exception of WSJT; activity for this mode is constant around 144.370, which shows how effective it is.

Stations normally call a few kilohertz either side of these frequencies so as not to cause QRM.

Procedure for SSB meteor scatter involves a one minute period of transmit followed by a one minute period receiving over an hour schedule leaving breaks every 15 seconds in case of a meteor burst.

HSCW (high speed CW) on the other hand has 2.5 minute periods of transmitting followed by a 2.5 minute period of receiving over an hour period.

WSJT uses 30 seconds of transmitting followed by 30 seconds of receiving over an hour period.

Skeds can be arranged for parts of the band allocated to the mode that you want to use outside of the calling frequencies listed above.

During a meteor shower most people arrange skeds on other frequencies for example;

19th November 06-07 144.123 LA5KO HSCW he TX 1st period

Or

20th November 11-12 144.362 DK1KO WSJT he TX 1st period.

Later on during the broad peak of the shower they QSY to 144.400 or 144.200 when random SSB calling is the order of the day. After the peak of the shower skeds usually continue as the shower declines.

Region 1 meteor scatter rules state that: Northbound and Westbound transmissions are made in periods

1, 3, 5 etc to avoid QRM.

Southbound and Eastbound transmissions are made in periods 2, 4, 6 etc.

Skeds are made via the VHF net on 14.343 or on one of the many VHF bulletin boards/chat pages on Internet.

The procedure for a meteor scatter test is as follows.

1. Both stations transmit both calls during their transmit period
2. Before you give out a report, make sure you have received both calls from the other station.
3. When you get your report and not before, then give a confirmation (r) report
4. When you get Rogers and a report, then you know the other station has all your details
5. A sked is complete when both stations exchange confirmation reports after logging both calls earlier on in the sked.

Reporting for meteor scatter is unusual and consists of 2 numbers for example EI4DQ YU7MS 27 27

The first number is the burst time duration and the 2nd number is the signal strength, in the example above YU7MS is giving Tom a report of up to 5 seconds duration with a signal of 4-5.

(Continued on page 21)

(Continued from page 20)

Explanation of reporting system

First number

2 = up to 5 seconds

3 = 5-20 seconds

4 = 20-120 seconds

5 = longer than 120 seconds

Second Number

6 = up to S-3

7 = S4-5

8 = S6-7

9 = S8 or more

You can also add letter strings that tell if you need information EI4DQ YU7MS YYY YYY

This means that YU7MS needs Tom's call.

EI4DQ can decide to call CQ on 144.100 but give the call CQH, this means that EI4DQ is listening 8Kc's up and moves there when he hears a station calling him on 144.108, (H being the 8th letter in the alphabet)

Up to a few years ago high speed CW (HSCW) was difficult to operate.

Tape recorders had to be modified to enable playback speed to be slowed down so as to read the short bursts of CW over a 2.5 minute period.

An audio up-converter (LA8AK) had to be built to make the CW more readable, speeds of 1000 to 1200 letters/minute was the norm.

It was not until 9A4GL Tihomir introduced soundcard-based software called MSDSP that HSCW became more user friendly. This, along with an easy to build interface to control the switching is connected to your microphone/data socket on your radio.

It is in fact simple to receive and decode meteor bursts using this software, which is in fact a variable tape recorder with an audio converter built in.

Speeds of 2000 to 4000 lpm are easy and far more efficient to deal with small bursts or pings.

K1JT has introduced and improved a new mode called WSJT over the past 2 years. This is very popular in Europe and is also called FSK441, it uses 4 tone frequency shift keying and as I am not an expert in this I will say no more.

WSJT works with your PC and soundcard and like WINMSDSP needs at least a Pentium 75, Windows 95 about 32mb ram and a monitor with 800x600 resolution to work well.

Recent versions of Windows need much more memory, especially if you want to run other applications at the same time.

WSJT is 100% duty cycle so ensure your amplifier is not over driven.

Normal CW is about 50% duty cycle, with WSJT it is recommended to turn off your noise blanker & speech processors and turn AGC to fast.

In the WSJT set-up options make sure it is set for EU defaults and that single tone messages is disabled also.

The interface for HSCW works for WSJT and for all your data modes like SSTV, THROB, PSK31 and RTTY.

It is necessary to be able to reduce your audio levels also.

Both HSCW and WSJT need accurate PC clock settings and to enable that I use Dimension 4 software.

This keeps your PC clock accurate by connecting at intervals set by yourself to a timeserver, you must be online to avail of this.

Radio controlled clocks are available in ARGOS which keep accurate time, receive RUGBY time-server and cost about 30 Euro.

S.E.T.I screen saver software seems to affect the accuracy of my PC clock so I had to uninstall it, shame as my Athlon CPU is good for number crunching.

The table below shows the meteor showers that I have found useful.

There are many other minor Meteor showers that occur outside these dates and these often overlap.

Meteor activity peaks between May and August, but some major showers occur at other times.

I hope this primer gives you an insight into meteor scatter operating and what can be achieved.

As I type this article I am listening on 144.370 to GW3LEW transmitting WSJT at the start of the Quadrantids shower.

See my Web page on Meteor Scatter on my site at qsl.net for further information on this mode;

www.qsl.net/ei5fk/HSCW---WSJT--Meteor-scatter.html

Charles Coughlan

EI5FK

Turks & Caicos Islands VP5T

The VP5T team operate annually from the Turks and Caicos Islands and especially look out for EI/GI stations.

Joe W2ORA/EI8GT has sent on the QSL cards for all EI stations worked and points out that VP5T does not need return QSL cards.

The EI/GI stations worked were:

	80	40	20	15	10
EI2CH					X
EI3JE					X
EI4BZ					X
EI4CF				X	
EI4DW					X
EI4GD					X
EI4GK					X
EI4IS			X		
EI5DI					X
EI6HB					X
EI6JK					X
EI6S					X
EI7GN					X
EI8EM					X
EI8GS				X	
EI8HT					X
EI8IR	X				
EI9E					X
EI9ES					X
GI0KVQ				X	
GI3KDR				X	
GI4VIV		X			X
GI4XSF					X
GI5W	X	X	X	X	

Meteor shower	Date	Max	ZHR	Bel.Horizon
Quadrantids	Jan 1-6	Jan 3-4	100	1400-0100
Eta Aquarids	Apr 21 -May 12	May 5	25	1600-0300
Arietids	May 29 -Jun 19	Jun 6	60	1600-0300
Perseids	Jul 20 -Aug 23	Aug 12-13	80	-----
Leonids	Nov 13-20	Nov 17-19	Var	1700- 2300
Geminids	Dec 6-14	Jan 3-4	100	0800-1800

Phoenix Amateur Radio Club
Annual Radio Rally

Coolmine Community School

Sunday February 16th 2003

Doors open at 1200

Admission 3 Euros

Car Parking available

Tea Bar and Sandwiches

Further details from Tony EI7GI on 01-8252074

Lough Erne Amateur Radio Club
22nd Annual Amateur Radio Show
Killyhevlin Hotel
Enniskillen

Sunday April 6th

Admission £3.00 or €5.00
Large Free Car Park
Bring & Buy - no fee

Doors open 12 noon
Food & Bar
Raffle with valuable prizes

Contact Herbie GI6JPO
028-6638 7761
h.graham@bigfoot.com



Amateur Radio,
Computers, Electronics
Accessories, Components



**Field Head,
Leconfield Road, Leconfield,
Beverly, E. Yorks. HU17 7LU**

E-mail: sales@linamp.co.uk

**Telephone/Fax:
+44 1964 550921**

Website: www.linamp.co.uk



The RANGER 811H

The Ranger was brought out 5 years ago to give a comfortable, UK legal limit amplifier with plenty in reserve.

The Ranger has become the UK's best selling amplifier since the end of the FL2100 and the Kenwood TL922.

The Ranger uses 4 x 811 valves, vertically mounted, to deliver around 800W CW/SSB. This very popular tube was used to great effect in the famous Collins 30L1.

The Ranger can be bought direct from ourselves and for a limited period we will give free delivery to Ireland.

We do not cut corners to make the amplifier cheap but we believe at **£895 inc. VAT (€1360)**, it is good value.

Other amplifiers in our range are:

Challenger III (GS35) 1500W, 10-160m£1795 (€2728)

Discovery 2m or 6m (GS35) 1500W O/P£1595 (€2424)

Discovery 2m or 6m (GS31) 1200W O/P£1395 (€2120)

Discovery 70cm (GS31) 800W£1495 (€2272)

Visit our website for more details on any of these amplifiers.

Used amplifiers always in stock – please ring or look on the 'For Sale' page on our website. All carry a 3 month guarantee.



MOBILE hands-free microphones

We manufacture these units for use with Amateur mobile radios. They have a head/ neck band with electret mic insert, control box with crystal-controlled toneburst and a locking PTT, also up/down buttons. Available in models plugged to suit most mobile radios.

Only £45 (€68) + p&p

Members Advertisements

For Sale: AR 8600 Communications Receiver Mk2. Complete with V18200 and CT8200. New, still in box. DSP-BHI Noise eliminating speaker. NES 10-2. New, still in box. 061-397004

For Sale: Yaesu 747GX as new €400
Martin EI-4-EEB on 093-47689
sweeneyml6@yahoo.com

Members advertisements are free

The DXpedition Experience

Join Declan EI6FR, Dermot EI5IQ and the team on.....

VP8THU Southern Thule, South Sandwich Islands 2002.

VP8GEO South Georgia 2002.

Both available in Video or DVD format at €20 each (plus €2 postage per tape)

Special offer - Purchase both and buy one of the other tapes in the DXpedition series for just €10

Also available in video format at €20 (includes postage):

ZL9CI Campbell Islands 2002.

FO0AAA Clipperton Island.

VK0IR Heard Island, Outpost on the Edge.

A52A Bhutan.

All from - 9V Post Production
c/o Declan Craig
167 St. James's Road,
Greenhills, Dublin 12.

ei6fr@gofree.indigo.ie
086-4027652



Experimenter - Ham - Amateur

Cellcom Ireland Ltd.

Ameritron
power amp

Icom
hf-vhf-uhf

HyGain
antennas



Tennadyne
Log Periodic

Henry
Amplifiers

MFJ
tuners/accs

Cushcraft Create RigBlaster

E-mail: info@cellcom.ie WEB: WWW.CELLCOM.IE

(091) 790222/4 Fax: (091) 790223

ORANMORE CO.GALWAY

Limerick
EI-4LRC

Radio
Club



ICOM

RADIO 2003

COMMUNICATION



YAESU

Radio Communications

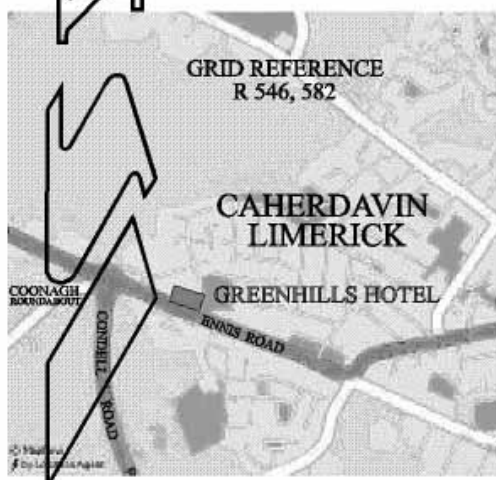


UNIVERSITY
YAESU

Communications
Long

**RADIO
COMPUTERS
ASTRONOMY**

COMPUSTORE



9th March
Greenhills
—HOTEL—

Doors Open
11.00am

€ 5
Admission

Anybody requiring a table should contact Paul EI6FE at QTHR.
ei6fe@eircom.net or 061-360122